DOCUMENT RESUME

ED 372 670 HE 027 554

AUTHOR Bess, James L.; Shearer, Robert E.
TITLE College Image and Finances: Are They Related to How Much Students Learn.
PUB DATE Apr 94
NOTE 29p.; Paper presented at the Annual Meeting of the American Educational Research Association (New Orleans, LA, April, 4-8 1994).
PUB TYPE Speeches/Conference Papers (150) -- Reports - Research/Technical (143)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS College Outcomes Assessment; College Students; *Educational Finance; Educational Quality; Higher Education; *Outcomes of Education; *Private Colleges; Program Descriptions; *Reputation
IDENTIFIERS College Outcome Measures Project; *Institutional Image; Institutional Prestige

ABSTRACT

This study investigated the relationship between college reputation, institutional financial health, and quality of education provided to the student. The study used data from a small representative sample of private four-year colleges participating in two national assessment efforts: American College Testing's College Outcome Measures Program (COMP) which provided student mean gain data, and a higher education financial audit database which provided financial ratios from accounting information. Each college's reputational indicator was determined from its description in Barron's "Profiles of American Colleges." Results indicated that: (1) data showed a remarkable lack of relationship between college reputations and the value these colleges added to students; (2) though most financial indicators showed no relationship to value added to students, higher investment in administrative/bureaucratic systems and borrowing to accomplish the goals of the institutions both correlated with higher student mean gain; and (3) regardless of the source of college funds, colleges that spend less of their total expense budget on instruction have a higher reputation than those that spend more. (Contains 19 references.) (JB)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED 372 670

College Image and Finances: Are They Related to How Much Students Learn

James L. Bess
Robert E. Shearer

New York University

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☑ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Robert E. Shearer

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

HE 027 554

Paper presented at the annual meeting of the American Educational Research Association, New Orleans, LA, April, 1994.

BEST COPY AVAILABLE

College Image and Finances: Are They Related to How Much Students Learn?

ABSTRACT

Many stakeholders in higher education are concerned about the quality of education delivered in exchange for their investments. They often look for guidance to two superficial or at least more visible alleged indices of quality -- institutional reputation and financial well-being. This paper examines the wisdom of using these measures. It investigates the relationships among reputational measures, institutional financial health, and value added to students in college.

COLLEGE IMAGE AND FINANCES: ARE THEY RELATED TO HOW MUCH STUDENTS LEARN?

Many stakeholders in higher education today continue to question whether and to what degree colleges are providing the educational services to students that their catalogs promise and that their faculty and administrators hope to provide. In partial response, the highly visible "assessment movement" being pushed forward by states, accrediting bodies and national associations stresses that institutions must become more accountable to their publics, providing "hard" evidence that students are, indeed, receiving "added value" thus justifying the investments of their financial supporters. Institutions, on the other hand, have been slow in offering this evidence, partly because the data are hard to come by and difficult to interpret, and partly because they have been accustomed to using more traditional indices of quality. In particular, institutions of the top rung call attention to their relative financial well-being, insinuating that a tightly run ship with ample financial resources can not help but translate into good education. In addition, and relatedly, they point to their long-standing reputations, alleging that they must have been earned by the delivery of educational quality.

The validity of these arguments was the subject of an inquiry whose results are reported in this article. In our research, we sought to find out whether the claims of a correlation between "financial well being" and "student achievement" and between "reputation" and student achievement were reasonable. There were several reasons why we felt this was important. For one, parents and their high school-age children regularly search the

usual college guide publications, anxiously ask enrolled college students for advice, seek out high school advisers and other professional counselors to find the "right" institution. External funding agencies, too, are concerned. As noted earlier, they want to know what they are getting for their money. The choice both for attendance and funding is frequently made on the college's long-standing reputation, and that reputation appears often to be related to the image of the college as having adequate resources to provide educational services--attractive facilities, financial aid, highly paid faculty. If, however, it is found that rich colleges are no better able than poor ones to contribute to their students' education, then apparent college wealth must be seriously reconsidered as a valid indicator in college selection. Or, suppose that reputation is a false front, hiding low value added to students. Some colleges, then, may be resting on their reputational laurels. This article, then, is a report of a pilot study investigating three critical questions:

1. To what extent, if at all are rich or financially well-managed colleges better able to provide more value added to students?

2. To what extent, if at all, are colleges with better reputations able to provide more value added to students?

3. To what extent, if at all, do financial wealth and reputation together account for more value added?

A display of an exhaustive set of relationships among financial health, reputation and value added is given in Table 1 following:

(Insert Table 1 about here)

Table 1
Categories of Colleges with Varying Combinations of Reputation, Financial Health and Value Added

Category	Reputation	Financial Health	Value Added
Winners	High	High	High
Coasters	High	High	Low
Efficients	High	Low	High
Showboats	High	Low	Low
Laid Backs	Low	High	High
Wizards	Low	Low	High
Cheaters	Low	High	Low
Losers	Low	Low	Low

Measuring the Study Variables

We need to begin by saying something about how the variables in our study are determined. While measures of student gains in cognition during college are becoming more sophisticated, these measures are still subject to speculation, and many approaches are commonly found. Traditional notions of "grades earned" are patently erroneous (Astin, 1985). Numbers of students going on to graduate school, another commonly cited measure, suffers obviously from failure to control for student characteristics on input. Recently, two more respectable indices have been developed -- the Academic Profile, sponsored by the Educational Testing Service, and the College Outcome Measures Program (COMP), sponsored by the American College Testing service. The Academic Profile was developed only quite recently, in the late 1980s, while the COMP began in 1976 and is probably the most popular value-added measure in use today (Astin (1991). Although the COMP has been criticized (as have been the use of gain score tests in general) for deemphasizing maturational effects occurring outside a college environment (Pascarella, 1987; Terenzini, 1989)and for lack of reliability (cf. Pike, 1991, 1992). Others, however, acknowledge that the measure is useful in assessing group mean gains (Pike, 1991; Jacobi et al., 1987) and is often misunderstood by critics (Yarbrough, 1992). Despite its alleged limitations, we felt that the COMP would give us a reasonably accurate indication of aggregate college student achievement in cognitive areas.

Financial Ratio Analysis

As noted several years ago by Chabotar (1989) and more recently by Winston (1992), unambiguous means of interpreting institutional financial health indicators are nonexistent. Our own informal surveys conducted among higher education financial practitioners and consultants revealed no consensus on "optimal" values for some widely used financial ratios. A "seat-of-the-pants" method of financial management appears to be the common mode of operation, where managers determine merely whether their institutions fit somewhere within a nationwide range of financial ratio indicators.

The use of ratios by financial analysts has a long history in the corporate sector but has been introduced to higher education only somewhat recently (Lupton, Augenblick and Heyison, 1976). The juxtaposition of two independent pieces of financial information in the form of a fraction has proven in the corporate sector to be a trenchant indicator of particular characteristics of the financial condition of an institution, particularly when the ratios are viewed over time, adjusted for changes in cost of living and compared with industry norms. Typically, financial managers are concerned with the immediate and long-term stability of the institution. Different ratios reflect current liquidity, the balance among sources of income, the distribution of different kinds of expenditures, and the hold that outside debtors have over the use of funds or assets.

Among the denominators of ratios in higher education finance are the institution's total debt or total liabilities, its total

revenues, and its total expenditures. Relating specific budget categories to these larger entities offers the financial manager a quantitative picture of the "slice" of the denominator that is being commandeered by each. "Policy" decisions (e.g., regarding desired risk, methods and procedures, goals, image) can then be operationalized with "real" number backing. In principle, ratios can be extremely helpful. The problem lies with interpretation and inference. There are no widely acceptable definitions of what constitute "ideal" financial ratios in higher education. Lacking either theory or empirically observed practice that is successful, financial officers are forced to resort to guesswork and inspiration to interpret financial data for policy making. Again, our initial research aim was to provide some guidelines for policy making based on an analysis of ratios found in colleges as they were related to reputation and to student cognitive gains over their four years.

Institutional Reputation

Individuals in America are obsessed with the need to enhance their egos. So also at the institutional level, organizations (including colleges and universities) feel the need to place themselves in the hierarchy of prestige in order better to appreciate their status or/and to comprehend and adjust their relationships with their outside publics in accordance with their mission. As a consequence, reputational "rankings" have evolved and now serve not only those institutions but their constituents as well. These latter include students, parents and funding agencies. From the very early studies (Hughes, 1925) to the latest popular reports (e.g., U.S. News and World Report), there have been

serious criticisms both of utility and validity (Webster, 1992). The criticisms run from accusations of rater bias, to time lag, to validity of the definition of "quality." Despite the criticisms, there are reasons to believe that the ratings serve useful purposes if not held to stringent research criteria. That is, on the whole, they distinguish well among very good, average, and very poor institutions, but not within those groups. For the purposes of our study, this discriminatory power seemed sufficient.

What We Studied

More specifically, our research constituted an empirical investigation of data from a rather small but representative sample of private four-year colleges participating in two national assessment efforts: ACT's College Outcome Measures Program (COMP), and the higher education financial audit database, maintained by a private research organization, Minter Associates of Boulder, Colorado. Institutional student mean gain data from COMP administrations at the sample colleges were obtained from ACT. Minter Associates provided financial ratios from accounting information collected from selected colleges. Nineteen such ratios were employed in the study. A third variable, a reputation indicator, was developed for each college from its description in Barron's Profiles of American Colleges. Barron's employs a "selectivity index", based on traditional reputation criteria of entering freshman SAT and ACT scores, percent of applicants accepted, high school performance and other factors. Thus, the three variables of concern--value added, financial health, and reputation--were operationalized for measurement of data from the sample campuses.

The Correlations of Institutional Reputation with Student Achievement

Let us first consider the initial question above -- whether reputation tells us anything about how much students learn during their four years at college. Our data show a remarkable lack of relationship between college reputations and the value these colleges add to students. The correlation we observed between the reputational rank and student mean gain measured by the COMP was -.14 and was not statistically significantly different from zero ($p < .55$). This finding suggests that reliable predictions of the value added to students at a particular college are not forthcoming from sophisticated reputational indices or probably even from popular images. Thus, the educational services at some allegedly great institutions may be quite ineffective for their students, while some apparently low quality institutions offer much more than might be expected. This is not to suggest, of course, that there is a negative correlation between reputation and value added. Indeed, some highly reputed institutions well deserve their reputations. The important point is that reputation alone does not unequivocally connote good education.

The Correlations of Financial Health With Student Achievement

Now let us examine the second of the above questions -- does going to a financially well-managed college assure a better education. Most of the financial indicators in our study show no relationship to value added to students in their undergraduate years. But several do, as illustrated in the following table.

(Insert Table 2 about here)

Table 2*

Correlations of Mean Student Cognitive Gain and Institutional Financial Health Indicators

Financial Variable**	Mean Student Gain	p <	N
Balance Sheet Ratios:			
Expendable Funds/ Plant Debt	.26	.31	17
Plant Equity/ Plant Debt	-.05	.84	17
Expendable Funds/ Total Expenses	-.11	.66	19
Non Expendable Funds/ Total Expenses	-.49	.03	19
Net Revenue Ratios:			
Net Total Revenue/ Total Revenue	-.25	.30	19
Net Ed & General Revenue/ Education & General Revenue	-.03	.91	18
Net Auxiliary Revenue/ Auxiliary Revenue	-.21	.38	19
Revenue Contribution Ratios:			
Tuition & Fees Revenue/ Education & General Expense	-.04	.87	19
Federal Government Revenue/ Education & General Expense	-.17	.50	18
Gifts & Grants Revenue/ Education & General Expense	.14	.57	19
Endowment Income/ Educational & General Expense	-.46	.06	18
Expenditure Demand Ratios:			
[illegible] Expense/ Education & General Revenue	.16	.52	19

Academic Support Expense/ Education & General Revenue	.11	.66	19
Student Service Expense/ Education & General Revenue	-.17	.49	19
Plant Operations Expense/ Education & General Revenue	.12	.61	19
Institutional Support Expense/ Education & General Revenue	.53	.02	19
Scholarship & Fellowship Expense/ Education & General Revenue	-.34	.15	19
Creditworthiness Ratios:			
Available Assets/ General Liabilities	-.22	.40	17
Debt Service Expense/ Total Revenue	.50	.08	13

*Figures in the table are Pearson product moment correlation coefficients.

**Definitions of the composition of these elements are available from the authors, and may also be found in Minter et al. (1986).

As the data in Table 2 suggest, the financial capacity of an institution of higher education is not a necessary and sufficient condition for high quality education. Fifteen of the 19 ratios were not related to how much students learned. Thus, some dollar poor institutions may add significant value to their students; some rich colleges may add little -- and the converse.

To illustrate more specifically, from Table 2, we can see that Tuition Revenue as a percentage of Educational and General Expenditures, Plant Equity as a percentage of Plant Debt, and Plant Operations expense as a percentage of Educational and General Revenue were not related to value added. Nor were there significant correlations of student ccognitive gains with important expenditure demand ratios such as Instructional Expense (.16), Academic Support Expense (.11), and Student Service Expense (-.17). Even Scholarship and Fellowship Expense as a percentage of Educational and General Revenue were inversely related (though the relatively high correlation of -.34 was not statistically significant -- $p < .15$.) In other words, ratios that intuitively would seem to be supportive of the academic enterprise and hence of the education and development of the student were, in point of fact, not related to them. (Again, this does not mean that they were negatively related.)

On the other hand, four ratios were strongly related to student mean gains at these institutions. For example, the ratio for Endowment Income to Education and General Expense was highly and negatively related to value added (-.46, $p < .06$), as was Non-Expendable Funds as a percent of total expenditures (-.49, p

< .03). What this says is that when institutions get too top heavy in their reliance on operating income that will be produced in the future (i.e., from currently non-expendable funds), there is no assurance that students will benefit. In other words, less effective education is likely.

Two other important ratios were positively associated with student mean value added. The correlation of student mean gain with Institutional Support as a percentage of Educational and General Revenue was a very high .53 ($p < .02$). We interpret this to mean that heavy investment in administrative/bureaucratic systems pays off for the colleges in this sample -- perhaps by relieving faculty of administrative burdens and providing them more opportunity to teach. (Recall that they are all small liberal arts colleges). Borrowing to accomplish the goals of the institution that results in large debt service expense also seems to be positively correlated with higher student mean gain ($r=.50$, $p <.05$). (We chose a relatively high criterion level of statistical significance -- .10 -- because of the small sample size. The magnitudes of the correlations in this case are of special interest.)

There are several possible explanations of the counter-intuitive findings from our study. We list them in ascending order of our judgment of their strength. The first explanation is that there are errors in the data -- collection, entry, statistical treatment, etc. Possible, but not likely. We have checked these methods thoroughly and verified their accuracy.

The second explanation is that the small sample is biased and that the data are skewed. However, comparisons of the sample colleges on a good many other demographic and related character-

istics revealed no deviance of significance. Third, it is conceivable that these small liberal arts colleges are not responding to the variables that are influential in larger, more complex institutions. That is, the validity of common-sense notions of reputation, financial health, and student gains may be suspect. In still other words, these terms may mean something quite different in small colleges; hence, the correlations expected for larger campuses would not necessarily be forthcoming for these. We tend to agree with this somewhat. If some more qualitative research were conducted, it might reveal subtle differences in the sub-dimensions of the three variables of concern. For example, "reputation" may be multidimensional and conveyed by unusual qualities at each campus. Further, different financial arrangements may contribute both to reputation and student gains for the different campuses. Testing with a larger sample might allow for deeper exploration of this possibility.

Fourth, the time frames may not match. We averaged five years of financial ratios and compared them with student gain data and reputational data reflecting the condition for the most part toward the end of the five year period. It may take some time, however, for reputations and/or student gain results to catch up with changed financial performance. Indeed, it is likely that reputations linger well after campuses either improve or decline in educational or financial quality. When we looked at financial data from only the first year of the five-year time frame, however, we still found few correlations. In the interests of smoothing out single-year aberrations of performance (or reporting), we decided to work with the five-year

data that we utilized above with the results already noted.

The final and related explanation is that both the correlations and the lack of them are spurious. Very conceivably, some other variable or variables is/are driving the three main ones under consideration. In this case, the data may not be linear. For example, long-standing, high quality academic leadership may be hidden to reputation watchers and may be unrelated to financial conditions, yet critical to student gains in cognition. The finding that at least some of our data are curvilinear suggests the need for further pursuit of this notion. As one instance, if both a high and a low financial ratio (but not a mid-range one) are correlated with high mean student gain, then a third variable may be intervening. In still other words, in the presence of the third variable either a high or low ratio will contribute to student gain (we're assuming causality, of course) while its presence also makes mid-range values of the financial ratio counter-productive. What these possible confounding variables are can not be determined from the results of our study.

Recall that the calculations were premised on an assumption that the ratios and the mean gain scores were both linear. That is, for a positive correlation to exist, as a financial ratio "increases" (or decreases), so does the predicted mean student gain. Thus, "more is better" or "less is better." The "seat-of-the-pants" philosophy of financial management noted above, on the other hand, assumes a different policy perspective -- namely that if one's institution is neither high nor low compared with comparable institutions, the college is in a "better" position. This suggests that there may be "optimum" ratios and that these

may be represented by the mean or median of the cohort institutions, not by the high or low values. Thus, it may be better to be closer to the mean or median rather than at the high or low end of a ratio. Further, institutions that depart from this optimum may experience lower student mean gain scores.

More concretely in this case, the lack of correlation of financial ratios expected to be related to student achievement (e.g., Academic Support Expense, Instructional Expense, Scholarship and Fellowship Expense, Student Service Expense) may be simply an artifact of the statistics. Both high ratios and low ratios may be negatively related to student mean gain, while ratios at the median may be highly correlated with it. Such relationships are not reflected in simple correlations. Later in this article, we expand on this notion.

These results do say several things to us, however. One, many traditional financial health measures, those involving tuition, endowment, or plant maintenance, may not accurately depict the academic success of a college. Two, the "quality" of academic efforts at a college may not be a simple function of expenditures for faculty and instruction. Nicholson (1991, p. 29) states that "some of the best teaching in this country" is done at institutions with "wonderful, overworked and underpaid faculty." We will have more to say about this later.

The Correlation Between Reputation and Financial Health

Leaving the discussion of student achievements aside for the moment, it is also of interest to determine the relationship between reputation and financial health. In other words, does

being well-managed financially contribute to reputation or/and does reputation help bring resources that permit better financial management? We found a mixed message in the data from our study. Seven of the 19 financial ratios were correlated with reputation (at a statistical level of at least <.10).

(Insert Table 3 about here)

For example, two balance sheet ratios (Plant Equity/Plant Debt and Non-Expendable Funds/Total Expenses), two revenue contribution ratios (Federal Government Revenue/Education and General Expense and Endowment Income/Education and General Expense), two demand ratios (Instructional Expense/Education and General Revenue and Plant Operations Expense/Education and General Revenue) and one Creditworthiness Ratio (Debt Service Expense/Total Revenue) were significantly related to reputation. Four of these seven reflect policy decisions giving priority to improvement or maintenance of physical plant.

It is tempting to speculate from these particular correlations, therefore, that reputations are the result of spending on physical plant. Indeed, Boyer (1987) has stated that the physical aspects of a college setting probably exert the strongest influence on students in choosing a campus. Of course, the correlations of reputation with the plant-related ratios as well as the other ratios in Table 3 do not prove causation, but they do rather raise interesting questions.

Of the remaining significant correlations between financial ratios and reputation, one, Endowment Income/Educational and General Expense, fits the popular belief that colleges with large endowments are "better." On the other hand, another corre-

Table 3

Correlations of Reputational Rank and Financial Health Indicators

Financial Variable	Rank	p<	N
Balance Sheet Ratios:			
Expendable Funds/ Plant Debt	.08	.77	17
Plant Equity/ Plant Debt	.45	.07	17
Expendable Funds/ Total Expenses	.17	.48	19
Non-Expendable Funds/ Total expenses	.48	.04	19
Net Revenue Ratios:			
Net Total Revenue/ Total Revenue	.26	.28	19
Net Education & General Revenue/ Education & General Revenue	.13	.61	18
Net Auxiliary Revenue/ Auxiliary Revenue	-.14	.57	19
Revenue Contribution Ratios:			
Tuition & Fees Revenue/ Education & General Expense	.15	.54	19
Federal Government Revenue/ Education & General Expense	-.40	.10	18
Gifts & Grants Revenue Education & General Expense	-.08	.75	19
Endowment Income/ Education & General Expense	.51	.03	18

Demand Ratios:			
Instructional Expense/ Education & General Revenue	-.40	.09	19
Academic Support Expense/ Education & General Revenue	-.19	.43	19
Student Services Expense/ Education & General Revenue	-.12	.63	19
Plant Operations Expense/ Education & General Revenue	.55	.02	19
Institutional Support Expense/ Education & General Revenue	-.10	.69	19
Scholarship & Fellowships Expense/ Education & General Revenue	-.06	.81	19
Creditworthiness Ratios:			
Available_Assets/ General Liabilities	.35	.17	17
Debt Service Expense/ Total Revenue	-.49	.09	13

lation, Federal Government Revenue/Educational and General Expense, suggests that the less government money contributes to the college's expenses, the higher the reputation. For this small sample of teaching institutions, there may be a public recognition that institutions that do put high priorities on government supported research may find their teaching priorities compromised, thus diminishing the college's reputation.

Paradoxically, however, the commitment of the institution's budget to instruction (Instructional Expenditures/Education and General Revenue) is strongly negatively related to reputation (even though the tuition dependence -- Tuition and Fees Revenue/Education and General Expense) of the college is not significantly correlated with reputation. In other words, regardless of what the source of funds is, colleges that spend less of their total expense budget on instruction tend to have higher reputations than those that spend more in this area.

Policy Implications of the Findings

These results, as a whole, call into question certain long-held assumptions about institutional quality. The notion that high quality is invariably associated with financial well-being clearly bears reexamination and further investigation. Certain income measures, such as tuition and endowment, may not be valid indicators of quality when measured by how much students actually learn. Colleges with that invest more in physical facilities (in order, perhaps, to give the appearance of quality), may have higher reputations, but there is no evidence of a correlation with value added to students.

Financial ratios that deal with expenditures of an institution reflect more policy decisions than financial condition. The association between such ratios and an institution's reputation or the value it adds to students is noteworthy regardless of financial health considerations. In this context, the lack of significant association of the academic support expenditure ratio with either reputation or value added is intriguing, as is the negative association of the instructional support expense ratio with reputation. Do colleges with higher reputations substitute investment in plant for investment in faculty? Does the amount of overall revenue an institution decides to expend on plant operations and maintenance, or institutional support, or academic support have implications for its educational product or merely for its reputation? Does high reputation or financial capacity attract the "wrong" kind of faculty -- those who care more for their pocketbooks and their egos than their students?

More Research Needed

Our conclusions and speculations are based on parametric correlational statistics with a very small sample of small liberal arts colleges. The use of a different statistical approach with a larger and more diverse sample may reveal different patterns. For example, as noted earlier, certain financial ratios, such as those associated with revenue, are thought to be better indicators of financial health if they are "higher." There is good reason to believe, however, that the "higher/better" rule does not apply to all revenue ratios. (A

well-known example of this is ratio, Tuition and Fees Revenue/Educational and General Expenses, where too high a fraction might make the institution too tuition dependent). Indeed, the seat-of-the-pants approach to policy also noted earlier reflects an intuitive notion that if an institutional ratio is close to peer institution means or medians, rather than at the high or low end, it reflects an adequate if not optimum condition.

Such a notion may be correct and may indicate managerial sophistication rather than the casual or even lackadaisical approach to financial management suggested by our use of the term "seat-of-the pants." There may well be a curvilinear relationship between certain ratios and student learning, rather than the linear one we explored through correlational statistics. In this case, as we suggested earlier, a median or mean ratio value may be better related to student cognitive learning than a high or low value. We began to examine this idea for a few of the intuitively questionable ratios we have already referred to -- instructional expense, academic support expense, scholarship and fellowship expense, and student services expense -- by looking at scatterplots of residuals for median values of these ratios versus student mean gain. The scatterplots suggest strongly that the data are not in fact linear. This result, of course, does not prove that the data and their relationships are curvilinear, but leaves open that possibility. This idea must remain speculative at the moment, pending a larger sample and additional investigation.

Conclusions

The results of our study offer support to earlier speculations and assertions among higher education researchers, notably Astin (1991), Bowen (1981), Cameron (1986), and Webster (1986), that an institution's reputation is not related to the quality of its education, however unexpected such a conclusion might appear. Indeed, perhaps the prime value of the study is the doubt cast on the intuition that has previously guided the thinking of most policy makers. We now know that reputation, financial health, and student gains are not simply related.

Public policy implications of this study are profound. Reduced economic resources, dwindling government support, and a shrinking applicant pool have affected all but a few of the most prestigious colleges and universities. Added to these phenomena is a general "graying" of academic staffs, which portends a growing need to replace faculty. Demands by all constituencies for "proof" of value added to students can no longer be answered by reference to past reputation or to financial statistics. Decisions about government funding or private gifts and choices by potential students are tied to perceptions of quality. Yet criteria of quality remain vague, diverse and possibly misleading, both in the academic community and outside. It is time to seek out the true components of high quality education and to focus attention on improving them rather than their surrogates. The study also raises questions about the validity of the largely unexamined assumption that high academic quality accompanies generally strong financial condition.

Higher education professionals as well as other stakeholders in the higher education enterprise might, in the future, approach more cautiously claims of high reputation on the part of academic institutions. Without indication of the value an institution adds to a student, perhaps by way of a thorough outcomes assessment, a reputational claim may be somewhat empty. Similarly, financial managers and those who evaluate financial information, such as institutional planners, might be advised to examine more closely the historical assumptions about (or traditional assumptions about) the meaning of certain financial indicators, such as those dealing with endowment, plant, and tuition. Despite the fact that a financial item looks good on the balance sheet and may impress trustees, it must also be shown to have positive relevance to the institution's educational product.

In sum, we hope these preliminary findings suggest both caution to stakeholders and the need for more research to financial and educational analysts. From our study, we conclude that the blind faith and intuition that has guided our past judgments now appears dangerously suspect.

References

Astin, A. 1985. Achieving Educational Excellence. San Francisco: Jossey-Bass.

Astin, A. 1991. Assessment For Excellence. New York: McMillan Publishing Company.

Barron's. 1988, 1990. Profiles of American Colleges (16th and 17th editions). New York: Barron's Educational Series, Inc.

Bowen, H. 1981. Cost Differences: The Amazing Disparity Among Institutions of Higher Education in Educational Costs Per Student. Change, January/February: 21-27.

Boyer, E. 1989. Buildings Reflect Our Priorities. Educational Record 70 (Winter): 25-27.

Cameron, K. 1986. A Study of Organizational Effectiveness And Its Predictors. Management Science 32: 89-112.

Chabotar, K. 1989. Financial Ratio Analysis Comes to Nonprofits. Journal of Higher Education 60 (no. 2): 188-208.

Hughes, R. 1925. A Study of the Graduate Schools of America. Oxford, Ohio: Miami University Press .

Jacobi, M., A. Astin, and F. Ayala Jr. 1987. College Student Outcomes Assessment: A Talent Development Perspective. (ASHE-ERIC Higher Education Report # 7.) Washington, DC: Association for the Study of Higher Education.

Lupton, A., J. Augenblick, and J. Heyison. 1976. The Financial Basis of Higher Education. Change, September: 21-37.

Minter, W., K. Hughes, D. Robinson, F. Turk, A. Buchanan, and F. Prager. 1986. Ratio Analysis in Higher Education (Second Edition). Peat, Marwick, Mitchell & Co.

Nicholson, J. 1991. A Guide to the Guides. Change, November/December, 22-29.

Pascarella, E. 1987. Are Value-Added Analyses Valuable? In Assessing the Outcomes of Higher Education: Proceedings of the 1986 ETS Invitational Conference. Princeton, New Jersey: Educational Testing Service, 71-91.

Pike, G. 1991. Using Structural Equation Models with Latent Variables to Study Student Growth and Development. Research in Higher Education 32: 499-524.

Pike, G. 1992. Lies, Damn Lies, And Statistics Revisited. A Comparison Of Three Methods of Representing Change. Research in Higher Education 33: 71-84.

Terenzini, P. 1989. Measuring the Value of College: Prospects and Problems. In Assessing Institutional Effectiveness: Issues, Methods, and Management, C. Fincher, ed. Athens, GA: Institute of Higher Education, University of Georgia, 33-48.

Webster, D. 1992. Reputational Ranking of Colleges, Universities, and Individual Disciplines and Fields of Study, from their Beginnings to the Present. In Higher Education: Handbook of Theory and Research, Volume VIII, J. Smart, ed. New York: Agathon Press, 234-304.

Winston, G. 1992. The Necessary Revolution in Financial Accounting. Planning for Higher Education, 20 (Summer): 1-23.

Yarbrough, D. 1992. Some Lessons To Be Learned From A Decade of General Education Outcomes Assessment With The ACT COMP Measures. Innovative Higher Education 16: 223-234.